REMARKS

The Office Action of January 27, 2010, has been carefully studied. Claims 1, 2, 6, 7 and 21 currently appear in this application. These claims define novel and unobvious subject matter under Sections 102 and 103 of 35 U.S.C., and therefore should be allowed. Applicant respectfully requests favorable reconsideration and formal allowance of the claims.

Claim Amendments

Claim 1 has been amended to limit the α-glucosyl saccharide to liquefied starch having a dextrose equivalent of less than 10. Support for this can be found in the specification as filed at Experiments 7 and 8, in which PINEDEX #1 and PINEDEX #100 were used as the glucosyl donors, respectively, as well as the comparative experiment in the Nishimoto declaration, which used PINEDEX by Matsutani Chemical Industry, Co., Inc. As shown in Reference #3 submitted with the Nishimoto declaration, "PINEDEX" pamphlet published by Matsutani Chemical Industry Co., Ltd., the dextrose equivalent (DE) of PINEDEX #1 is 8 ± 1 and the DE of PINEDEX #100 is in the range of 2 to 5. Accordingly, it is respectfully submitted that this amendment of claim 1 does not enter any new matter, and none is intended.

Art Rejections

Claims 1, 2, 6, 7 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated or, in the alternative, under 35 U.S.C. 103(a) as obvious over Yamamoto et al., US 5,137,723.

This rejection is respectfully traversed.

The Examiner contends that the fact that Yamamoto does not disclose production of AA5G and AA6G does not make the presently claimed process patentable. However, it is clear from the Nishimoto declaration submitted with the amendment filed July 8, 2009, that when the α-glucosyl saccharide is limited to liquefied starch having a dextrose equivalent of less than 10, the enzyme obtained from *Arthrobacter* produced superior levels of AA2G, 25%, with no detectable amounts of byproducts AA5G and AA6G. When the enzyme of Yamamoto was used, however, the maximum amount of AA2G obtained was only 15%, and AA5G and AA6G were present in amounts of 2.0% and 0.3%, respectively. Clearly, even though Yamamoto does not disclose production of the unwanted byproducts, the Nishimoto declaration shows that the Yamamoto enzyme produces byproducts that are not produced by the enzyme used in the herein claimed process.

It is clear from the Nishimoto declaration that the α-isomaltosyl glucosaccharide-forming enzyme used in the herein claimed process is not the same as the RIAGase and CGST of Yamamoto. The Nishimoto declaration has also

demonstrated that, when liquefied starch having a dextrose equivalent of less than 10 is use as the substrate, a superior product is formed with the herein claimed enzyme as compared with the Yamamoto enzyme.

The Examiner alleges that the claims are not commensurate in scope with the Nishimoto declaration because the enzyme used in the Nishimoto experiments was obtained from *Arthrobacter globiformis* A19.

It is respectfully submitted that the α-isomaltosyl glucosaccharide-forming enzyme produced by *Arthrobacter* should not be limited to the α-isomaltosyl glucosaccharide-forming enzyme produced by the species that produced the α-isomaltosyl glucosaccharide-forming enzyme used in the Nishimoto examples.

The present specification, at page 8, line 23 to page 11, line 10, states that the enzyme used in the herein claimed process is disclosed in International Patent Application No. WO 02/10361. The US equivalent of this application is Kubota et al., US 7,241,606. It should be noted that Kubota discloses that the subject enzyme is obtained from microorganisms of the genera *Bacillus* and *Arthrobacter*. Both of these genera produced a suitable α-isomaltosyl glucosaccharide-forming enzyme that is used in the herein claimed process. Therefore, the fact that Nishimoto used an enzyme from one strain of *Arthrobacter* should not limit the claims, because Kubota clearly teaches that both *Arthrobacter* and Bacillus can produce suitable enzymes. The figures of Kubnota show α-isomaltosyl glucosaccharide-forming enzyme obtained from a

variety of strains of *Arthrobacter*, including *Arthrobacter globiformis* and, *Arthrobacter ramsus.*

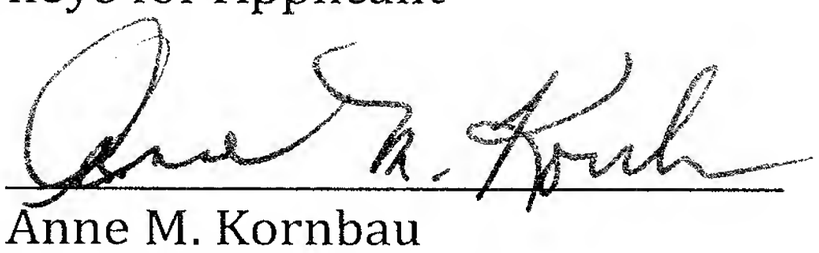
It is respectfully submitted that the enzyme used in the claimed process shooed not be limited to one obtained from *Arthrobacter globiformis* A19 strain. While that was the particular enzyme used in the Nishimoto declaration, Kubota, as noted above, teaches that the enzyme can be obtained from either *Arthrobacter* or *Bacillus* microorganisms. What is important is that the enzyme used in the claimed process produces good yields of AA2G with no detectable yields of the byproducts AA5G and AA6G. Since the Yamamoto enzyme produces detectable amounts of the by products, and less of the AA2G, it is clear that the two enzymes are different from each other.

With respect to the Examiner's concern with the species "liquefied starch", it should be noted that claim 1 has been amended to recite that the liquefied starch has a dextrose equivalent of less than 10. The liquefied starches used in the examiner and the Nishimoto declaration all have a dextrose equivalent of less than 10, which is a narrow range of dextrose equivalents such that one skilled in the art would assume that these materials have similar physical properties.

In view of the above, it is respectfully submitted that the claims are now in condition for allowance, and favorable action thereon is earnestly solicited.

Respectfully submitted,

BROWDY AND NEIMARK, P.L.L.C.
Attorneys for Applicant

By 
Anne M. Kornbau
Registration No. 25,884

AMK:srd
Telephone No.: (202) 628-5197
Facsimile No.: (202) 737-3528
G:\BN\S\SUMA\MUKAI2\pto\2010-04-21Amendment.doc